

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 - 18. (cancelled)

19. (currently amended) A substrate having at least one surface and a ~~zinc diffused nickel alloy~~ coating on said at least one surface, said coating having a first layer formed from nickel or a nickel alloy applied to said at least one surface and a second layer formed from zinc applied over said first layer, said first layer having zinc atoms diffused therein, and said substrate being formed from a deoxidized low carbon steel.

20. (cancelled)

21. (original) A substrate according to claim 19, wherein said substrate comprises a component used in a gas turbine engine.

22. (currently amended) A substrate according to claim 19, wherein said ~~zinc diffused nickel alloy~~ coating provides corrosion resistance and heat resistance at temperatures in excess of 900°F.

23. (currently amended) A substrate according to claim 19, wherein said ~~coating has a nickel or nickel alloy layer into which zinc atoms have diffused and a zinc layer into which second layer has nickel atoms have diffused therein.~~

24. (currently amended) A substrate according to claim 23, wherein said first layer is a nickel alloy layer ~~is~~ formed by an alloy selected from the group consisting of a nickel cobalt alloy, a nickel iron alloy, a nickel manganese alloy, a nickel molybdenum alloy, and a nickel tin alloy.

25. (cancelled)

26. (currently amended) A component for use in a gas turbine engine comprising:

a steel substrate formed from a low carbon steel; and

a zinc diffused nickel alloy coating on said steel substrate, said coating having a first layer formed from a nickel alloy deposited on and in contact with a surface of said substrate and a second layer formed from zinc deposited on said first layer and said first layer having zinc atoms diffused therein.

27. (currently amended) A method for forming a corrosion and heat protective coating on a gas turbine engine component comprising the steps of:

providing a substrate formed from a low carbon steel;

forming a nickel ~~base~~ alloy coating layer on said substrate;

applying a layer of zinc over said nickel ~~base~~ alloy coating layer; and

diffusing the zinc into said nickel ~~base~~ alloy coating layer.

28. (new) A component according to claim 26, wherein said nickel alloy layer is formed from a nickel cobalt alloy.

29. (new) A component according to claim 26, wherein said nickel alloy layer is formed from a nickel iron alloy.

30. (new) A component according to claim 26, wherein said nickel alloy layer is formed from a nickel manganese alloy.

31. (new) A component according to claim 26, wherein said nickel alloy layer is formed from a nickel molybdenum alloy.

32. (new) A component according to claim 26, wherein said nickel alloy layer is formed from a nickel tin alloy.

33. (new) A method according to claim 27, wherein said nickel alloy coating layer forming step comprises depositing a nickel cobalt alloy on said substrate.

34. (new) A method according to claim 27, wherein said nickel alloy coating layer forming step comprises depositing a nickel iron alloy on said substrate.

35. (new) A method according to claim 27, wherein said nickel alloy coating layer forming step comprises depositing a nickel manganese alloy on said substrate.

36. (new) A method according to claim 27, wherein said nickel alloy coating layer forming step comprises depositing a nickel molybdenum alloy on said substrate.

37. (new) A method according to claim 27, wherein said nickel alloy coating layer forming step comprises depositing a nickel tin alloy on said substrate.